SUMMARY STATEMENT
(Privileged Communication)

Dr. Well Intended
301
dwi@nih.gov

Application Number: 1S10RR9898

PROFESSOR X
A RESEARCH INSTITUTE
1234 LEAK RD
YOUR FAIR CITY, TN 89898

Review Group: ZRG-1 SSS-T(04I)
Center for Scientific Review Special Emphasis Panel

Meeting Date: June COUNCIL: BIG22
Requested Start Date:

Project Title: Request for a Shared Mass Spectrometer

IRG Action: Priority Score: 393
Human Subjects: 10-No human subjects involved
Animal Subjects: 10-No live vertebrate animals involved

PROJECT YEAR	DIRECT COSTS REQUESTED	DIRECT COSTS RECOMMENDED
01	389,000	357,000

SCIENTIFIC REVIEW ADMINISTRATOR'S NOTE
COMMITTEE BUDGET RECOMMENDATIONS

RESUME AND SUMMARY OF DISCUSSION: A plasma desorption mass spectrometer is sought for a group of five principal users, three at A and one each at B and C. The attractive features of the application are that this new instrument will be located in the Productive MS center at A and that the principal investigator is an acknowledged expert and will ensure appropriate use of the instrument. The difficulties with the application are that the administrative plan is weak, equitable sharing of the spectrometer is not clearly assured, the spectrometer may be a captive instrument of the principal investigator, and most users could solve their research problems using standard approaches that do not require the requested cutting-edge technology. During the discussion, it was noted that most of the major users do not have adequate experience in mass spectrometry and no suitable arrangement has been made to help investigators interpret their data. In summary, despite the expertise of the principal investigator and the value of the instrument to his research, as a shared resource, the application only generated moderate enthusiasm.

CRITIQUE 1:

JUSTIFICATION OF NEED/RESEARCH PROJECTS: The proposed plasma desorption instrument will be located in the NSF mass spectrometry center at A. Three other mass spectrometers are resident there: a Kratos MS-50 high resolution MS, a CVC-2000 time-of-flight mass spectrometer used by the principal investigator for laser desorption studies, and a DuPont 491 low resolution MS. In addition, a new Kratos MS-80 equipped with HPLC will soon be installed there. The proposed instrument is requested for the study of heavy molecules; however, many of the measurements can be carried out on

the Kratos MS-50, as they have been in the past.

The requested instrument will not have clear advantages over the MS-50 for Dr. Z's NIGMS-supported structural analyses because resolution would be sacrificed for higher sensitivity. Dr. Y's NIAID-funded research on the structure of lipid A in various bacteria could be accomplished using other available techniques. Professor X's unfunded research on the structure and function of peptide hormones, such as insulin and relaxin, would be served well by the requested instrument because sensitivity is critical for this research. Dr. W's structural determination of modified decadeoxyribo-nucleotides is supported by NIGMS. These are difficult compounds to investigate, and it is unlikely that the requested instrument will improve this research. Dr. V's research on group IB and IIB transition metals and their reactions with a class of gene products, metallothioneins, are supported by the NCI. The role of the requested plasma desorption instrument in this research was not discussed.

TECHNICAL EXPERTISE: The requested instrument will be managed by Professor X, who has considerable expertise in laser desorption, time-of-flight mass spectrometry, and high molecular weight applications of magnetic sector instruments. The instrument will be well used and well maintained. This is the strongest point of the application.

ORGANIZATION: The plan is weak and does not contain built-in assurances of sharing of the spectrometer, given that two of the principal users are not on site. The application suggests that the instrument will be dominated by Professor X.

CONTINUING COMMITMENT: Site A will provide space, a minimal commitment. Plans for support and maintenance in future years are not clearly described.

BENEFIT TO THE RESEARCH COMMUNITY: One can perhaps assume that other clients of the MS facility will have access to the instrument as it is to be located in a resource environment. However, almost no discussion of this point is given.

OVERALL EVALUATION: Support is requested for purchase of a plasma desorption mass spectrometer. Strengths of the application include the technical expertise of the principal investigator and the productivity of the center where the instrument will be housed. Weaknesses of the application include inadequacies in the administrative plan and lack of technical expertise among the group of users.

CRITIQUE 2: (not shown)

THE FOLLOWING RESUME SECTIONS WERE PREPARED BY THE SCIENTIFIC REVIEW ADMINISTRATOR TO SUMMARIZE THE OUTCOME OF DISCUSSIONS OF THE REVIEW COMMITTEE ON THE FOLLOWING ISSUES:

COMMITTEE BUDGET RECOMMENDATIONS: The following changes were recommended: The proposed mass spectrometer will cost $389,000, and the entire sum is requested from the NCRR Shared Instrumentation Program. The requested funding should be reduced by deletion of item I ($32,000) which is not necessary for any described project.

SCIENTIFIC REVIEW ADMINISTRATOR'S NOTE: The requested instrument is presently on-site. NCRR staff should verify that details of the loan/purchase agreement are compatible with award of a shared instrumentation grant.

5/06/04, updated 5/23/06